



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/582,018	06/07/2006	Shigeru Fujita	R2184.0505/P505	8964
24998 7590 10/17/2008 DICKSTEIN SHAPIRO LLP 1825 EYE STREET NW Washington, DC 20006-5403				
EXAMINER				
MALEKZADEH, SEYED MASOUD				
ART UNIT		PAPER NUMBER		
1791				
MAIL DATE		DELIVERY MODE		
10/17/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/582,018

Applicant(s)

FUJITA ET AL.

Examiner

SEYED M. MALEKZADEH

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) 10-12 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-9 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 29 July 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

Claims 1 - 12 are pending

Claims 1 – 9 are rejected

Claims 10 - 12 are withdrawn

In view of the amendment, filed on 07/29/2008, following rejections/objections are withdrawn from the previous office action for the reason of record.

- Objection to drawings
- Objection to Information Disclosure Statement
- Rejection of claims 1, 3, 6-8 under 35 U.S.C. 102(b) as being anticipated by Murata et al. (US 6,468,618)
- Rejection of claims 2 and 4 under 35 U.S.C. 103(a) as being unpatentable over Murata et al. (US '618) in view of Murata (JP 2002-184046)
- Rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Murata et al (US '618) in view of Fujita (JP 2001297488)
- Rejection of claim 9 under 35 U.S.C. 103(a) as being unpatentable over Murata et al. (US '618) in view of Shibata (JP 2002-83450)

New Grounds of Rejection

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

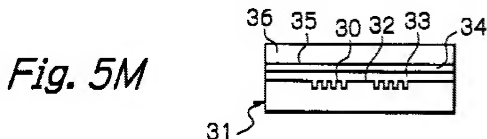
The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-4 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al. (US 6,468,618) in view of Murata (JP 2002-150625).

Murata et al. ('618) teach a stamper for molding an optical disk base in which the apparatus includes a mother portion (31) as a lower most section made of nickel (see lines 30-37, column 5), a nickel layer (36) as an uppermost section, and a middle section comprising a thick nickel layer (33) formed on the lower section (31) and a heat insulating layer (34) formed on the thick nickel layer (33). (See lines 38-61, column 5, also figure 5M) Therefore, the prior art teaches an uppermost section made of nickel, a lower most section, also, made of nickel, and a middle section having a heat conductivity lower than the upper most section and including a metal layer

as the same metal material as the uppermost section and the lowermost sections, and a heat insulating layer. Furthermore, Murata et al. ('618) disclose the heat insulating portions include heat resisting substances formed on the nickel layer. (See lines 53-59, column 2)



Murata et al. ('618) also teach the heat insulating layer is made of polyimide particles which is a heat resisting resin (See lines 47-59, column 4 and lines 40-43, column 8) and a heat resistant inorganic polymer. (See lines 59-67, column 8)

However, Murata et al. ('618) fails to teach heat resisting substances are dispersed in the metal material of the middle section, as claimed in claim 1, and the middle section is a matrix with a plurality of voids formed within the matrix, as claimed in claims 2 and 4.

In the analogous art, Kamitakahara et al (JP 40520075) teach a roll stamper apparatus for forming concaves and convexes on a thermoplastic resin sheet as base material for optical information recording medium in which the apparatus comprises a flexible stamper (23) as an uppermost section, a heat insulating porous layer (22) as a middle layer, and a mirror

surface roller (21), as a lowermost section, in which the porous layer (22) is located between the stamper (23) and a mirror surface roller (21). (See abstract) Furthermore, the prior art teaches the air is dispersed within the voids of porous material of the middle layer (22) in which since thermal conductivity of the air is very small, air acts as a thermal break in the porous layer to provide an effective adiabatic efficiency. (See paragraph [0018]) Moreover, the prior art teaches the porous layer (22) is a layer of the homogenous thickness contained in a matrix material for example by using air as a closed cell or an open cell. (See paragraphs [0035] – [0036]) Furthermore, the prior art teaches through providing a porous layer, as a heat insulating layer, between a roll and a flexible stamper, the generation of uneven flaws or transfer irregularities in the fine pattern of the substrate for producing a data recording medium molded by a roll stamper is prevented. (See abstract; purpose of the invention)

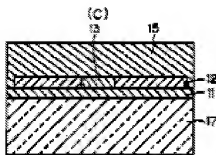
Therefore, it would have been obvious for one of ordinary skill in the art at the time of applicant's invention to modify the heat insulating stamper apparatus as taught by Murata et al. ('618) through dispersing a plurality of minute voids as heat insulating substances in the matrix formed middle layer of the stamper apparatus in order to prevent the generation of uneven flaws or transfer irregularities in the fine pattern of the substrate for the data

recording medium molded by the stamper apparatus, as suggested by Kamitakahara et al (JP 40520075)

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al (US '618) in view of Kamitakahara et al (JP '075) as applied to claims 1-4 and 6-8 above, and further in view of Fujita (JP 2001297488).

Combined teaching of Murata et al. ('618) in view of Kamitakahara et al (JP '075) teach all the structural limitations of a heat insulating stamper as discussed above in rejection of claims 1-4 and 6-8, however, fail to teach the concentration of heat resisting substances varies in a depth direction of the insulating layer, as claimed in claim 5.

In the analogous art, Fujita (JP '488) teaches a stamper which includes a glass disk (17), a primary plating layer (11) which is formed on a glass disk (17), a boss plating layer (13) which is formed on the center portion of a primary plating layer (11), an insulating layer formed at the periphery of boss plating layer, and a secondary plating layer (15) which is formed on the layers (12 and 13) in which the insulating layer (12) include a specified thickness and properties. (See abstract) and the concentration of the heat resisting material in the insulating layer varies in the heat insulating layer thickness (See paragraphs [0025], [0029], and [0032]) to prevent peeling of the inner edges in the stamper while attaching to or releasing from die.



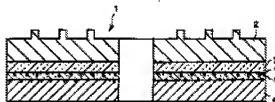
Therefore, it would have been obvious for one of ordinary skill in the art at the time of applicant's invention to modify teachings of the Murata et al. ('618) in view of Kamitakahara et al (JP '075) through providing an insulating layer in which the concentration of heat resisting substances varies in a depth direction of the insulating layer in order to prevent peeling of the inner edges in the stamper while attaching to or releasing from die, as suggested by Fujita (JP '488).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al. (US '618) in view of Kamitakahara et al (JP '075) as applied to claims 1-4 and 6-8 above, and further in view of Shibata (JP 2002-83450)

Murata et al. ('618) in view of Kamitakahara et al (JP '075) teach all the structural limitations of a heat insulating stamper as discussed above, however, fail to teach the heat resisting inorganic material used in the insulating layer comprises zirconia series, alumina series, silicon carbides series, or silicon nitride series, as claimed in claim 9.

In the analogous art, Shibata (JP '450) teach a heat insulation stamper (1) comprising sequential lamination of a transfer metal layer (2), a heat insulation layer (3), and a metal layer (6) in which the insulation layer (3) and the metal layer (6) bonded through a coating layer (4) mixed with a filler (5) made of an inorganic material comprising oxidized silicon, an aluminum oxide, zirconium oxide, Nitrides, silicon carbide, zirconium carbide, and silicon nitride, or the mixture of these substances.

【図1】



Therefore, it would have been obvious for one of ordinary skill in the art at the time of applicant's invention to modify teachings of the Murata et al. (US '618) and Kamitakahara et al (JP '075) through providing a heat resisting inorganic material inside of the insulating layer including zirconia series, alumina series, silicon carbides series, or silicon nitride series in order to improve durability of the heat insulation stamper and also to increase the strength of bonding between the insulation layer and the metal layer, as suggested by Shibata (JP '450).

Response to Arguments

Applicant's arguments and remarks, filed on 07/28/2008, with respect to claims 1 - 9 have been considered but are moot in view of the new ground(s) of rejection.

Further, applicants argue that Murata does not have the claimed pattern on a surface thereof for use in molding an optical disc substrate and as can be seen from the figure (5M), includes both the mother portion (31) and the heat insulated stamper (21) (Fig. 5N). Thus, the heat insulating stamper (21) of Murata would more accurately correspond to the claimed heat insulating stamper.

This is not found persuasive because applicant's attention is drawn to the point that claim 1 indicates that heat insulating stamper comprises a structure of "an uppermost section", "a lower most section", and "a middle section" in which specifically recitation of "comprising" in the claim means the structure of the apparatus is capable of including further apparatus elements. As discussed above, in the body of the rejection, Murata et al. (US '618) in view of Kamitakahara et al (JP '075) teach all the structural limitations of a heat insulating stamper as claimed in claims 1-4 and 6-8, and if the recited references include more structural elements, it does not invalidate the capability of recited prior arts for the rejection. Therefore, rejection of claims 1-9 are maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Furthermore, for the cited non-patent literature "CA", "Shozo Murata, et al.", "Development of Heat Insulation Stamper for CD-R Media Production", Ricoh Technical Report No. 27, pp. 77-82, Nov. 2001, in PTO-892, only English portions of the document is considered.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seyed Masoud Malekzadeh whose telephone number is 571-272-6215. The examiner can normally be reached on Monday – Friday at 8:30 am – 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin, can be reached on (571) 272-1189.

The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance form a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/S. M. M./

Examiner, Art Unit 1791

/Steven P. Griffin/

Supervisory Patent Examiner, Art Unit 1791